EM 3031

RF Wireless Systems | 3000 Series Receivers

EM 3031-U Cat. No. 009250
EM 3031-V Cat. No. 009278

General Description

The EM 3031 is a true diversity receiver in a 19'' 1 U rack housing. 32 programmable receiving frequencies ensure flexible channel selection and make this receiver an ideal choice for OB applications or for use in shows.

General Features

- Up to 32 programmable receiving frequencies per receiver
- Switching bandwidth max. 24 MHz (UHF) or 7 MHz (VHF)
- HiDyn *plus*™ noise reduction system with 117 dB(A)$_{rms}$ signal-to-noise ratio
- Multi-function LC display panel
- Indication of transmitter battery status (only with Sennheiser transmitters transmitting battery status information)
- 19'' 1 U metal housing with built-in mains power supply unit
- Suitable for multi-channel applications

EM 1031

- True diversity receiver, 19'' 1 U housing
- LC display for frequency, RF and AF level
- Headphone output
- Delivery includes: 1 EM 3031 receiver, 2 telescopic antennas
  1 mains cable, 19'' rack mount ears

Technical Data EM 3031-U

Type of receiver	32-channel receiver
Receiving frequencies	max. 32
Frequency range	450–960 MHz
Switching bandwidth	24 MHz
Modulation	wideband FM
Nominal/peak deviation	± 40 kHz / ± 56 kHz
RF squelch	0–100 µV, adjustable
Signal-to-noise ratio	> 117 dB(A)$_{rms}$
Noise reduction system	HiDyn *plus*™
AF frequency response	45–20,000 Hz (–3 dB)
THD (1 kHz)	≤ 0.4 % (typ. 0.2 %)
RF inputs	2 BNC sockets, 50 Ω
AF output voltage, balanced XLR:	max. 18 dBU, adjustable
Headphone output	max. 12 dBU, adjustable
Output impedance	≥ 50 Ω
Power supply	115 / 230 V AC (+10 % / –15 %)
Housing	19'', 1 U
Dimensions	436 x 43 x 215 mm
Weight	approx. 3.5 kg
In compliance with	ETS 300 422

Technical Data EM 3031-V

Type of receiver	32-channel receiver
Receiving frequencies	max. 32
Frequency range	138–250 MHz
Switching bandwidth	7 MHz
Modulation	wideband FM
Nominal/peak deviation	± 40 kHz / ± 56 kHz
RF squelch	0–100 µV, adjustable
Signal-to-noise ratio	> 117 dB(A)$_{rms}$
Noise reduction system	HiDyn plus™
AF frequency response	45–20,000 Hz (–3 dB)
THD (1 kHz)	≤ 0.4 % (typ. 0.2 %)
RF inputs	2 BNC sockets, 50 Ω
AF output voltage, balanced XLR:	max. 18 dBU, adjustable
Headphone output	max. 12 dBU, adjustable
Output impedance	≥ 50 Ω
Power supply	115 / 230 V AC (+10 % / –15 %)
Housing	19'', 1 U
Dimensions	436 x 43 x 215 mm
Weight	approx. 3.5 kg
In compliance with	ETS 300 422

EM 3031/EM 3032

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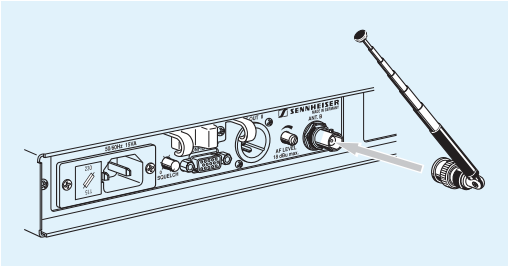
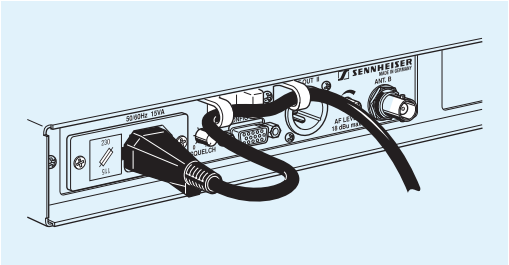


Mounting the telescopic antennas



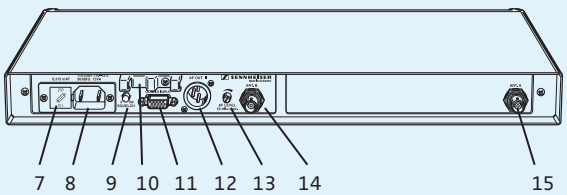
Using the cable grip for the mains cable

The EM 3031 and EM 3032 receivers are fitted with an adjustable RF squelch, which mutes the audio output when the antenna voltage drops below the chosen threshold. The squelch can be adjusted between 0 and approx. 100 µV. When the squelch has been triggered, the "MUTE" warning will light up on the receiver display. The receivers are additionally equipped with an AMF advanced muting function. This muting function is triggered when the RF signal suddenly drops by approx. 50 dB. The receiver will then be muted for about 3 seconds to avoid the annoying crackling noise which is caused when a transmitter is switched off.

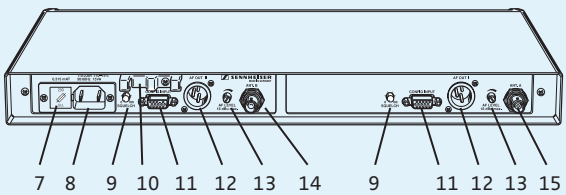
The EM 3031 and EM 3032 receivers have a headphone output for monitoring the incoming audio signal; the monitoring signal is mono. Sennheiser's closed HD 25 headphones are an ideal choice for monitoring purposes. In order to enable monitoring even in unfavourable conditions (e.g. low AF signal level from the transmitter) and with high ambient noise (on the stage, for example), the signal from the headphone output is up to 30 dB louder than the LINE output signal. However, this may lead to distortion if the level of the incoming signal is quite high and if the volume control is turned up. In this case, turn back the volume until the distortion disappears. If the sound remains distorted, the transmitter itself is overmodulated.

The Sennheiser transmitter range includes many models which transmit battery status information. The EM 3031 and EM 3032 receivers are able to receive this status information. They display the remaining battery or accupack capacity of the transmitter in %. When the battery is going flat and the remaining capacity lasts for only 20 to 30 minutes of operation, the "LOW BATT" warning on the display starts flashing. You should immediately replace the transmitter battery.

EM 3031



EM 3032



7 Fuse holder and mains voltage selector
8 Mains connector
9 Squelch control
10 Cable grip
11 Service interface (not used during normal operation)
12 Balanced XLR-3 audio output
13 AF level control for audio output
14 Antenna socket B
15 Antenna socket A

Operating controls of the EM 3031 and EM 3032 – back panel

EM 3031/EM 3032

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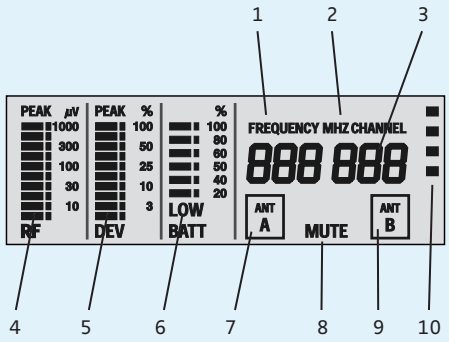


1 "FREQUENCY MHz" display
2 "CHANNEL" display
3 Alphanumeric main display
4 10-step level display for incoming RF signal, with peak warning
5 10-step level display for incoming AF signal, with peak warning
6 6-step display for transmitter battery status, with "Low Batt" warning
7 Diversity antenna A active
8 Squelch active (MUTE)
9 Diversity antenna B active
10 Frequency groups display

Reading off the LC display

EM 3031 and EM 3032

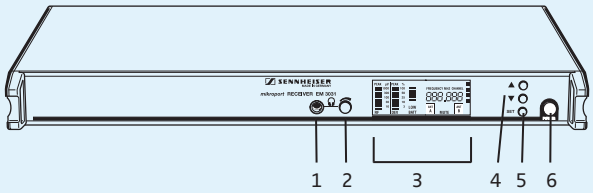
With the EM 3031 single receiver and EM 3032 twin receiver, Sennheiser offers two 19" high-quality RF receivers which have excellent operational reliability and are extremely user-friendly. Combined with a suitable hand-held or bodypack transmitter, they form a studio-quality radio link. Both receivers use true diversity technology to reduce drop outs to an absolute minimum and ensure interference-free operation.

Due to the wide switching bandwidth of the EM 3031 and EM 3032 receivers (24 MHz for the UHF variant, 7 MHz for VHF) and due to their up to 32 receiving frequencies you can easily switch to unused frequencies in case of interference on a selected channel. The EM 3031 and EM 3032 receivers have been designed for demanding show and broadcasting applications and are ideally suited for large multi-channel systems.

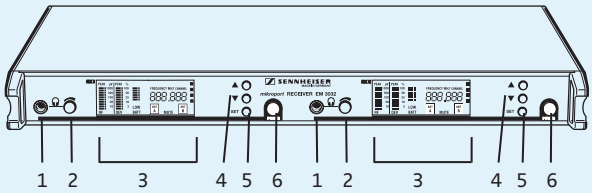
With the GA 3030 AM antenna mount, the antenna sockets can be relocated at the receiver front, for example if the rear of the rack is closed. If you need to choose an antenna position away from the receivers, Sennheiser offers the A 12 AD UHF active directional antenna or the A 1031-U passive omni-directional antenna for the UHF range and the A 2 P passive omni-directional antenna for the VHF range. The EM 3031 and 3032 receivers output the audio signal via an XLR-3 socket at the rear. The level control serves to adjust the AF signal level and adapt it to the subsequent mixing console or amplifier.

The receiver display indicates the chosen receiving frequency or, optionally, the channel number which it has been assigned. You can also read off the field strength of the incoming RF signal in µV and the deviation of the audio signal (i.e. the modulation level of the RF signal) in %. Both RF and AF display have a peak warning in case the signal strength becomes excessively high. Short peak periods are not critical. If, however, the audio signal is overmodulated very often and for quite some time, the sensitivity of the transmitter must be reduced. The AF display is additionally provided with a "peak-hold" function, i.e. peak values are displayed for some time so that it becomes easier to detect them.

EM 3031



EM 3032

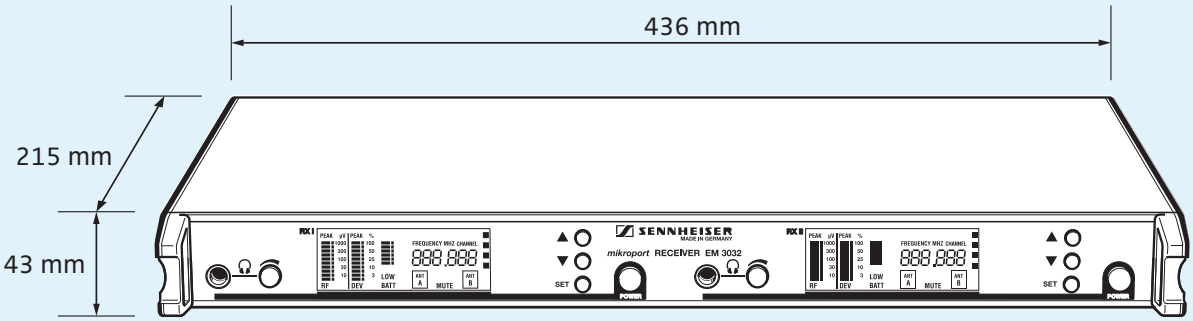


1 1/4" headphone output jack socket
2 Volume control for headphone output
3 Multi-function LC display
4 ▲ and ▼ buttons for selecting the receiving frequency/channel number
5 SET button for menu selection and storage
6 On/off switch

Operating controls of the EM 3031 and EM 3032 – front panel

EM 3031/EM 3032

RF Wireless Systems | 3000 Series Receivers



EM 3031 / EM 3032 dimensions

Accessories for EM 3031 and EM 3032

■ GA 3030 AM antenna mount	Cat. No. 004368
■ A 12 AD UHF active directional antenna (for -U)	Cat. No. 004156
■ A 1031-U passive omni-directional antenna (for -U)	Cat. No. 004645
■ A 2 P passive omni-directional antenna (for -V)	Cat. No. 003533
■ GZA 1036-9 ground plane antenna	Cat. No. 002336
■ GZA 1036-TV ground plane antenna (for -U)	Cat. No. 002243
■ N/BNC adaptor	Cat. No. 033839
■ RG 58 co-axial antenna cable	
GZL 1019 A1 (1 m)	Cat. No. 002324
GZL 1019 A5 (5 m)	Cat. No. 002325
GZL 1019 A10 (10 m)	Cat. No. 002326
■ GZV 1019A BNC coupler	Cat. No. 002368
■ AS-X custom-built active antenna splitter	on request
■ ASA 3000-EU active antenna splitter	Cat. No. 009423
■ ASA 3000-UK	Cat. No. 008408
■ ASA 3000-US	Cat. No. 009407